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JUG 16 2001

TECH CENTER 1600/2900

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/702,374

DATE: 07/19/2001

TIME: 16:01:20

Input Set : A:\ES.txt

Output Set: N:\CRF3\07192001\I702374.raw

ENTERED

3 <110> APPLICANT: CHAPMAN, KENT D.  
 4 AUSTIN-BROWN, SHEA  
 6 <120> TITLE OF INVENTION: METHODS FOR EXTENDING THE FRESHNESS OF CUT FLOWERS,  
 ORNAMENTAL TREES AND

7 PLANT CUTTINGS

9 &lt;130&gt; FILE REFERENCE: 4380.000400

11 &lt;140&gt; CURRENT APPLICATION NUMBER: 09/702,374

12 &lt;141&gt; CURRENT FILING DATE: 2000-10-30

14 &lt;150&gt; PRIOR APPLICATION NUMBER: 60/162,178

15 &lt;151&gt; PRIOR FILING DATE: 1999-10-28

17 &lt;160&gt; NUMBER OF SEQ ID NOS: 15

19 &lt;170&gt; SOFTWARE: PatentIn version 3.0

21 &lt;210&gt; SEQ ID NO: 1

22 &lt;211&gt; LENGTH: 1173

23 &lt;212&gt; TYPE: DNA

24 &lt;213&gt; ORGANISM: Nicotiana tabacum

26 &lt;400&gt; SEQUENCE: 1

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27 gggaagtgc tggaggacat gttcaatgca ataaatcagg ctgctcggtt gatttacatt      60
29 acaggatggt cagtgtacca cctagttaca cttgttaggg ataattgaaa agctgaggaa      120
31 agcatgttag gggaaattct caagaggaaa tcccaagaag gtgtgagagt actgcttctc      180
33 atatgggatg atcctacctc ttggaagagc atcttgggat acaaaagtga aggaatcatg      240
35 ggaactagtg atgaagaaac tcgtcgctat tttaagcatt cttcagtgc cgtgctactt      300
37 tgtccccgtt ctgctggaaa agggcacagc tgggtcaaaa aacaggaaac tggaacaata      360
39 tacacacatc atcagaaaac tgtaatagtg gatgtggatg ctggtaatta ccagagaaag      420
41 attatcgctt tcgttgggtg ccttgatttg tgcaaagggc gttatgatac tccacaacac      480
43 cctatcttta aaacattgca aaatgtgcac aaagatgact atcatcagcc taactacacg      540
45 ggccctacta ccggttggtc tagagaacct tggcatgatt tacatagtcg gatcgagggg      600
47 cctgctgcat atgatgtcct aactaacttc gaggagcgct ggttgaaggc ttcaaagcgc      660
49 catggacttc aaaagatgaa agcttcacaa gatgatgcat tactccaact tgacaggatt      720
51 tccgacatat taaaaatagc tgatgtccct tgcctaggag aagatgatgc agatacgtgg      780
53 cagtgacaga ttttccggtc gattgactcc aactctgtta aaggtttccc caaagatccc      840
55 aaagaagcca ctaacaagaa tctagtttgt ggcaagaatg tgctgataga tatgagcata      900
57 catactgcct atgtaaaggc aatccgagct gcccaacatt tcatctacat tgagaaccag      960
59 tacttccctag ggtcctcata caattggaat aactaccaag atttaggtgc aaataacttg      1020
61 ataccgatgg agattgctct aaaaattgcc aacaaaatac gggcaaatga gaggttttca      1080
63 gtatatataa ttgttcctat gtggccagag ggtgttccaa ccagtactgc tactcagaga      1140
65 atactttttt ggcaacacaa aaccatagag atg                                     1173

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68 &lt;210&gt; SEQ ID NO: 2

69 &lt;211&gt; LENGTH: 391

70 &lt;212&gt; TYPE: PRT

71 &lt;213&gt; ORGANISM: Nicotiana tabacum

73 &lt;400&gt; SEQUENCE: 2

75 Gly Lys Cys Trp Glu Asp Met Phe Asn Ala Ile Asn Gln Ala Arg Arg

76 1 5 10 15

78 Leu Ile Tyr Ile Thr Gly Trp Ser Val Tyr His Leu Val Thr Leu Val

79 20 25 30

81 Arg Asp Asn Gly Lys Ala Glu Glu Ser Met Leu Gly Glu Ile Leu Lys

82 35 40 45

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84 Arg Lys Ser Gln Glu Gly Val Arg Val Leu Leu Leu Ile Trp Asp Asp
85      50                      55                      60
87 Pro Thr Ser Ser Lys Ser Ile Leu Gly Tyr Lys Ser Glu Gly Ile Met
88 65                      70                      75                      80
90 Gly Thr Ser Asp Glu Glu Thr Arg Arg Tyr Phe Lys His Ser Ser Val
91                      85                      90                      95
93 His Val Leu Leu Cys Pro Arg Ser Ala Gly Lys Gly His Ser Trp Val
94                      100                     105                     110
96 Lys Lys Gln Glu Thr Gly Thr Ile Tyr Thr His His Gln Lys Thr Val
97                      115                     120                     125
99 Ile Val Asp Val Asp Ala Gly Asn Tyr Gln Arg Lys Ile Ile Ala Phe
100                      130                     135                     140
102 Val Gly Gly Leu Asp Leu Cys Lys Gly Arg Tyr Asp Thr Pro Gln His
103 145                      150                      155                      160
105 Pro Ile Phe Lys Thr Leu Gln Asn Val His Lys Asp Asp Tyr His Gln
106                      165                      170                      175
108 Pro Asn Tyr Thr Gly Pro Thr Thr Gly Cys Pro Arg Glu Pro Trp His
109                      180                      185                      190
111 Asp Leu His Ser Arg Ile Glu Gly Pro Ala Ala Tyr Asp Val Leu Thr
112                      195                      200                      205
114 Asn Phe Glu Glu Arg Trp Leu Lys Ala Ser Lys Arg His Gly Leu Gln
115                      210                      215                      220
117 Lys Met Lys Ala Ser Gln Asp Asp Ala Leu Leu Gln Leu Asp Arg Ile
118 225                      230                      235                      240
120 Ser Asp Ile Leu Lys Ile Ala Asp Val Pro Cys Leu Gly Glu Asp Asp
121                      245                      250                      255
123 Ala Asp Thr Trp His Val Gln Ile Phe Arg Ser Ile Asp Ser Asn Ser
124                      260                      265                      270
126 Val Lys Gly Phe Pro Lys Asp Pro Lys Glu Ala Thr Asn Lys Asn Leu
127                      275                      280                      285
129 Val Cys Gly Lys Asn Val Leu Ile Asp Met Ser Ile His Thr Ala Tyr
130                      290                      295                      300
132 Val Lys Ala Ile Arg Ala Ala Gln His Phe Ile Tyr Ile Glu Asn Gln
133 305                      310                      315                      320
135 Tyr Phe Leu Gly Ser Ser Tyr Asn Trp Asn Asn Tyr Gln Asp Leu Gly
136                      325                      330                      335
138 Ala Asn Asn Leu Ile Pro Met Glu Ile Ala Leu Lys Ile Ala Asn Lys
139                      340                      345                      350
141 Ile Arg Ala Asn Glu Arg Phe Ser Val Tyr Ile Ile Val Pro Met Trp
142                      355                      360                      365
144 Pro Glu Gly Val Pro Thr Ser Thr Ala Thr Gln Arg Ile Leu Phe Thr
145                      370                      375                      380
147 Gln His Lys Thr Ile Glu Met
148 385                      390
150 <210> SEQ ID NO: 3
151 <211> LENGTH: 10
152 <212> TYPE: PRT
153 <213> ORGANISM: Nicotiana tabacum
155 <400> SEQUENCE: 3

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Input Set : A:\ES.txt

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157 Gly Gly Gln His Lys Thr Ile Glu Met Met  
 158 1 5 10  
 160 <210> SEQ ID NO: 4  
 161 <211> LENGTH: 26  
 162 <212> TYPE: DNA  
 163 <213> ORGANISM: Nicotiana tabacum  
 165 <220> FEATURE:  
 166 <221> NAME/KEY: misc\_feature  
 167 <222> LOCATION: (13)..(13)  
 168 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
 171 <400> SEQUENCE: 4

26

172 catcatytc d atngtyttrt gytgcc  
 175 <210> SEQ ID NO: 5  
 176 <211> LENGTH: 9  
 177 <212> TYPE: PRT  
 178 <213> ORGANISM: Nicotiana tabacum  
 180 <400> SEQUENCE: 5  
 182 Ile Tyr Thr His His Glu Lys Ala Cys  
 183 1 5

185 <210> SEQ ID NO: 6  
 186 <211> LENGTH: 23  
 187 <212> TYPE: DNA  
 188 <213> ORGANISM: Nicotiana tabacum  
 190 <220> FEATURE:  
 191 <221> NAME/KEY: misc\_feature  
 192 <222> LOCATION: (9)..(9)  
 193 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
 196 <400> SEQUENCE: 6

23

197 athtayacnc aycaygaraa rac  
 200 <210> SEQ ID NO: 7  
 201 <211> LENGTH: 11  
 202 <212> TYPE: PRT  
 203 <213> ORGANISM: Nicotiana tabacum  
 205 <400> SEQUENCE: 7  
 207 Cys Asn Ile Tyr Thr His His Glu Lys Ala Cys  
 208 1 5 10

210 <210> SEQ ID NO: 8  
 211 <211> LENGTH: 25  
 212 <212> TYPE: DNA  
 213 <213> ORGANISM: Nicotiana tabacum  
 215 <220> FEATURE:  
 216 <221> NAME/KEY: misc\_feature  
 217 <222> LOCATION: (15)..(15)  
 218 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
 221 <220> FEATURE:  
 222 <221> NAME/KEY: misc\_feature  
 223 <222> LOCATION: (24)..(24)  
 224 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
 227 <400> SEQUENCE: 8

RAW SEQUENCE LISTING  
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Input Set : A:\ES.txt  
 Output Set: N:\CRF3\07192001\I702374.raw

228 gtyttytcrtrt grtgngtrta datng 25  
 231 <210> SEQ ID NO: 9  
 232 <211> LENGTH: 8  
 233 <212> TYPE: PRT  
 234 <213> ORGANISM: Nicotiana tabacum  
 236 <400> SEQUENCE: 9  
 238 Glu Cys Trp Phe Trp Cys Gly Gly  
 239 1 5  
 241 <210> SEQ ID NO: 10  
 242 <211> LENGTH: 20  
 243 <212> TYPE: DNA  
 244 <213> ORGANISM: Nicotiana tabacum  
 246 <400> SEQUENCE: 10  
 247 gartgytggt tytggtgygg 20  
 250 <210> SEQ ID NO: 11  
 251 <211> LENGTH: 8  
 252 <212> TYPE: PRT  
 253 <213> ORGANISM: Nicotiana tabacum  
 255 <400> SEQUENCE: 11  
 257 His Gly Lys Cys Trp Glu Asp Met  
 258 1 5  
 260 <210> SEQ ID NO: 12  
 261 <211> LENGTH: 24  
 262 <212> TYPE: DNA  
 263 <213> ORGANISM: Nicotiana tabacum  
 265 <220> FEATURE:  
 266 <221> NAME/KEY: misc\_feature  
 267 <222> LOCATION: (6)..(6)  
 268 <223> OTHER INFORMATION: N = C, G, A or T  
 271 <400> SEQUENCE: 12  
 272 cayggnaart gytgggarga yatg 24  
 275 <210> SEQ ID NO: 13  
 276 <211> LENGTH: 9  
 277 <212> TYPE: PRT  
 278 <213> ORGANISM: Nicotiana tabacum  
 280 <400> SEQUENCE: 13  
 282 Glu Glu Pro Glu Asn Met Glu Cys Gly  
 283 1 5  
 285 <210> SEQ ID NO: 14  
 286 <211> LENGTH: 25  
 287 <212> TYPE: DNA  
 288 <213> ORGANISM: Nicotiana tabacum  
 290 <220> FEATURE:  
 291 <221> NAME/KEY: misc\_feature  
 292 <222> LOCATION: (17)..(17)  
 293 <223> OTHER INFORMATION: N = C, G, A or T  
 296 <400> SEQUENCE: 14  
 297 crcaytccat rttytenggy tcytc 25  
 300 <210> SEQ ID NO: 15

RAW SEQUENCE LISTING  
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Input Set : A:\ES.txt  
Output Set: N:\CRF3\07192001\I702374.raw

301 <211> LENGTH: 8  
302 <212> TYPE: PRT  
303 <213> ORGANISM: Nicotiana tabacum  
305 <220> FEATURE:  
306 <221> NAME/KEY: misc\_feature  
307 <222> LOCATION: (2)..(2)  
308 <223> OTHER INFORMATION: X = ANY AMINO ACID  
311 <220> FEATURE:  
312 <221> NAME/KEY: misc\_feature  
313 <222> LOCATION: (4)..(7)  
314 <223> OTHER INFORMATION: X = ANY AMINO ACID  
317 <400> SEQUENCE: 15  
W-4 319 His Xaa Lys Xaa Xaa Xaa Xaa Asp  
320 1 5

## VERIFICATION SUMMARY

DATE: 07/19/2001

PATENT APPLICATION: US/09/702,374

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Input Set : A:\ES.txt

Output Set: N:\CRF3\07192001\I702374.raw

L:172 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:272 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14  
L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15